

Reply to Notice of Non-Compliant Amendment of February 4, 2005

Amendment to the claims:

Claims 1-4 (cancelled).

1 5. (currently amended) ~~The circuit recited in claim 4~~ A circuit for determining  
2 temperature of an active semiconductor device, comprising:  
3 (A) a semiconductor substrate having thereon the active device;  
4 (B) a bridge circuit comprising:  
5 (i) a first thermal sensitive device disposed in thermal contact with an  
6 electrode of the active device, such first thermal sensitive device having a pair of  
7 terminals, a first one of the pair of terminals being connected to a first node and a  
8 second one of the pair of terminals being connected to a second node;  
9 (ii) a second thermal sensitive device disposed in thermal contact with the  
10 electrode of the active device, such second thermal sensitive device having a pair  
11 of terminals, a first one of the pair of terminals being connected to a third node  
12 and a second one of the pair of terminals being connected to a fourth node;  
13 (iii) a third thermal sensitive device disposed in thermal contact with the  
14 substrate, such third thermal sensitive device having a pair of terminals, a first one  
15 of the pair of terminals being connected to the second node and a second one of  
16 the pair of terminals being connected to the fourth node;  
17 (iv) a fourth thermal sensitive device disposed in thermal contact with the  
18 substrate, such fourth thermal sensitive device having a pair of terminals, a first  
19 one of the pair of terminals being connected to the first node and a second one of  
20 the pair of terminals being connected to the third node;  
21 (v) a voltage potential connected between the first node and the fourth  
22 node;  
23 (vi) an output provided by the second node and the third node;  
24 including a tuning circuit coupled to an output electrode of the transistor, such tuning  
25 circuit having a tunable element controlled by a control signal fed to such tunable  
26 element.

1 6. (original) The circuit recited in claim 5 including a processor responsive to a voltage  
2 produced at the output of the bridge and a signal representative of power fed to the  
3 transistor.

1 Claims 7-10 (cancelled).

1 11. (currently amended) ~~The circuit recited in claim 10~~ A circuit for determining  
2 temperature of an active semiconductor device, comprising:  
3 (A) a semiconductor substrate having thereon the active device;  
4 (B) a Wheatstone bridge circuit having in each of four branches thereof a thermal  
5 sensitive device, one pair of such thermal sensitive devices being in thermal  
6 contact with an electrode of the active device;  
7 wherein the thermal sensitive devices are resistors;  
8 wherein the active device is a transistor; and  
9 -including a tuning circuit coupled to an output of the transistor, such tuning  
10 circuit having a tunable element controlled by a control signal fed to such tunable  
11 element.

1 12. (original) The circuit recited in claim 11 including a processor responsive to a voltage  
2 produced at an output of the Wheatstone bridge circuit and a signal representative of  
3 power fed to the transistor.

1 13. (original) The circuit recited in claim 12 wherein the output provided by the  
2 Wheatstone bridge provides a measure of a temperature difference between the  
3 temperature of the transistor and ambient temperature.

1 14. (currently amended) The circuit recited in claim 13 wherein the processor produces  
2 the control signal to maximize power fed to the transistor and minimize power  
3 dissipated by such transistor.

1 Claims 15 – 17 (cancelled).  
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1 18. (currently amended) ~~The circuit recited in claim 17~~ A circuit for determining  
2 temperature of an active semiconductor device, comprising:  
3 (A) a semiconductor substrate having thereon the active device;  
4 (B) a Wheatstone bridge circuit having in each of four branches thereof a thermal  
5 sensitive device, one pair of such thermal sensitive devices being in thermal  
6 contact with an electrode of the active device;  
7 wherein another pair of such thermal sensitive devices is in thermal contact with  
8 the substrate;  
9 wherein the thermal sensitive devices are resistors;  
10 wherein the active device is a transistor; and  
11 including a tuning circuit coupled to an output of the transistor, such tuning  
12 circuit having a tunable element controlled by a control signal fed to such tunable  
13 element.

1 19. (original) The circuit recited in claim 18 including a processor responsive to a  
2 voltage produced at an output of the Wheatstone bridge circuit and a signal  
3 representative of power fed to the transistor.

1 20. (original) The circuit recited in claim 19 wherein the output provided by the  
2 Wheatstone bridge provides a measure of a temperature difference between the  
3 temperature of the transistor and ambient temperature.

- 1    21. (original) The circuit recited in claim 20 wherein the processor produces the control signal to  
2       maximize power fed to the transistor and minimize power dissipated by such transistor.